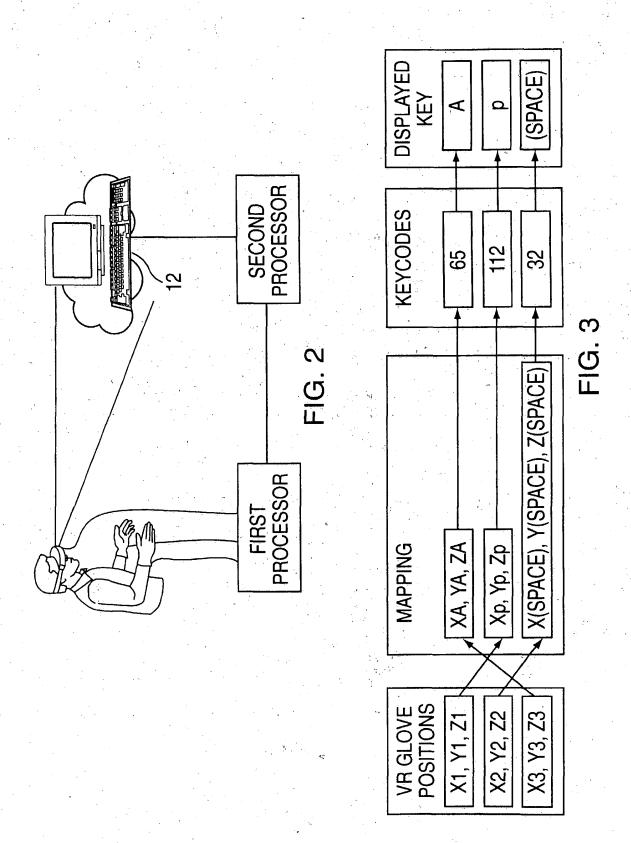


FIG. 4



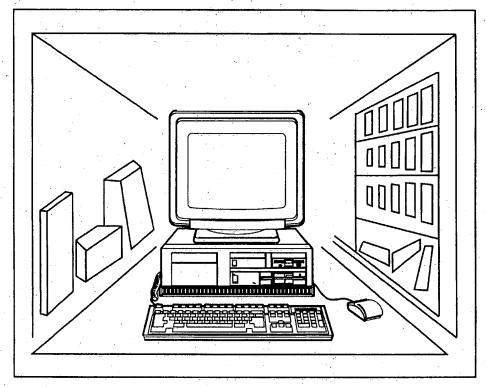


FIG. 5

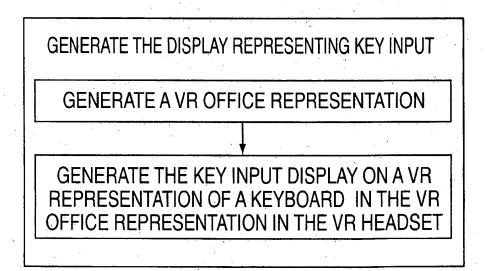


FIG. 6

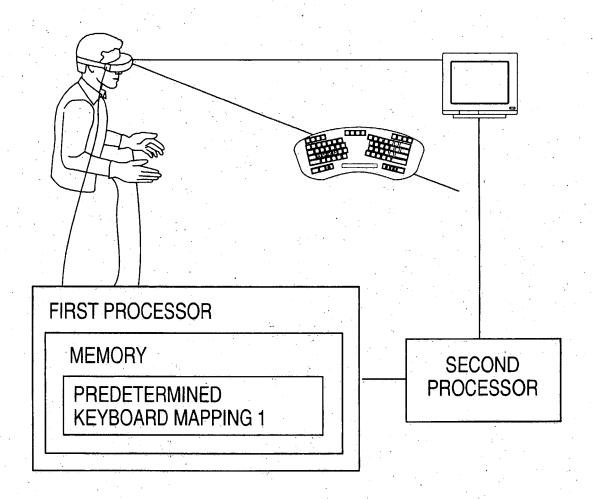
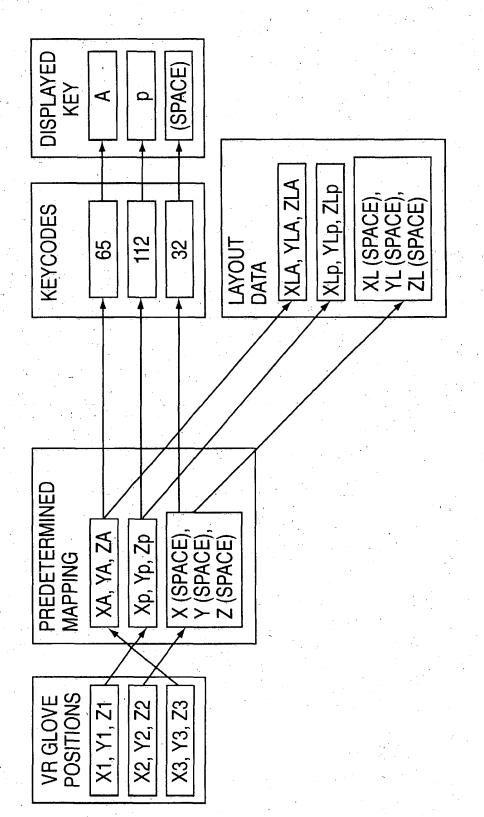


FIG. 7

0,20	
FIRST PROCESSOR VR PROGRAM	
MEMORY	
PREDETERMINED KEYBOARD MAPPING 1	
KEYBOARD CHARACTER SET	
ENHANCED NUMERICAL KEYPAD	
DTMF KEYPAD DVORAK	
GREEK CYRILLIC	
CUSTOMIZED	
VR KEYBOARD LAYOUT	
THREE DIMENSIONAL	
TWO DIMENSIONAL ERGONOMIC	
MUSICAL INSTRUMENT	
PIANO SYNTHESIZER ORGAN	
PREDETERMINED KEYBOARD MAPPING 2	
COMMAND/CONTROL CODES	
GAME COMMAND CODES	
WORD PROCESSOR CODES AND HOT KEYS	
PROGRAMMING LANGUAGE CODES	
COMMAND/CONTROL LAYOUT	

FIG. 8



EG. 0

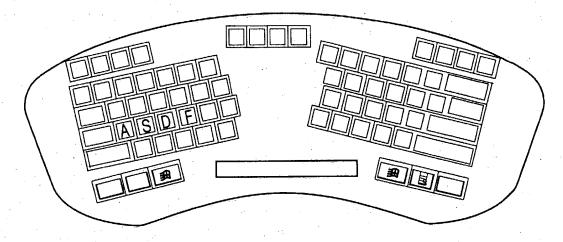


FIG. 10

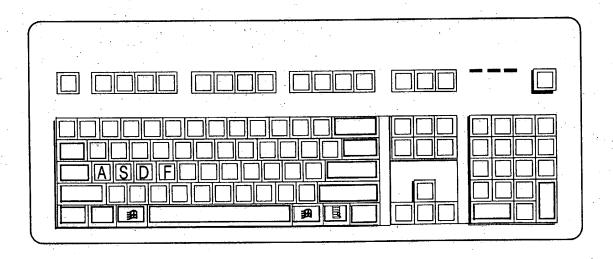


FIG. 11

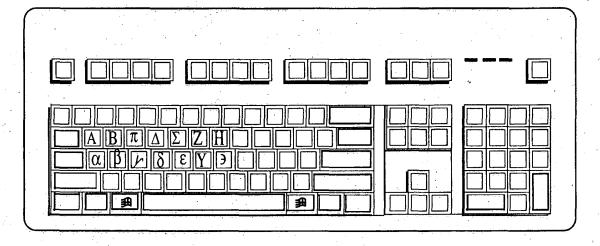


FIG. 12

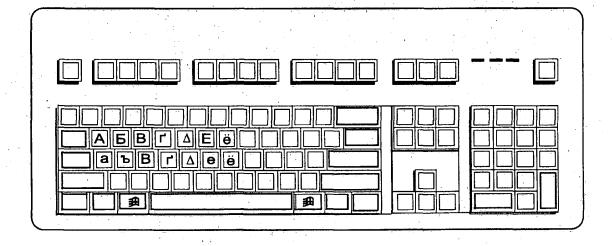


FIG. 13

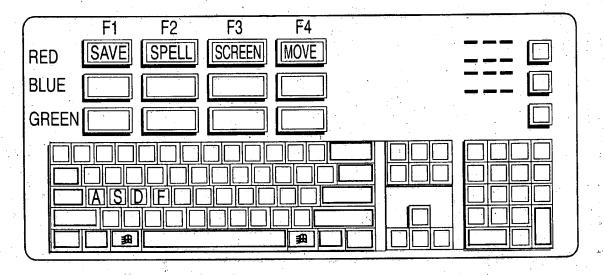


FIG. 14

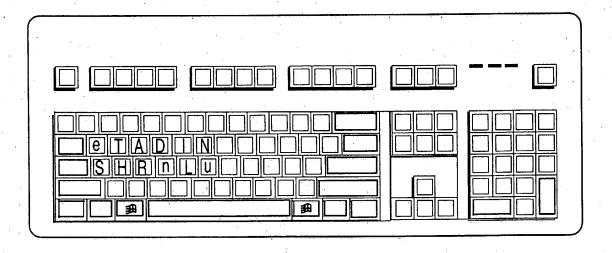


FIG. 15

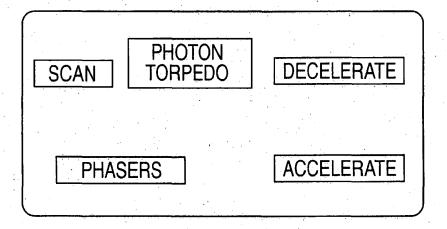


FIG. 16

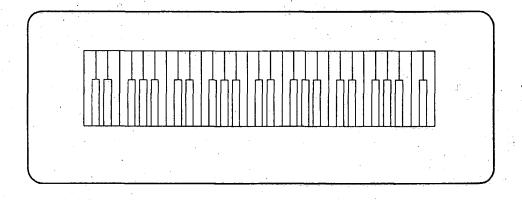
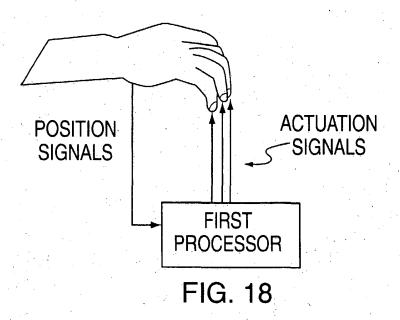


FIG. 17



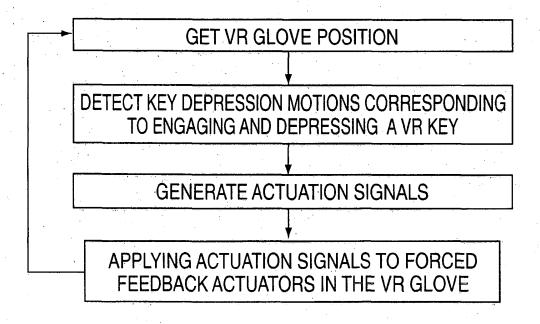


FIG. 19

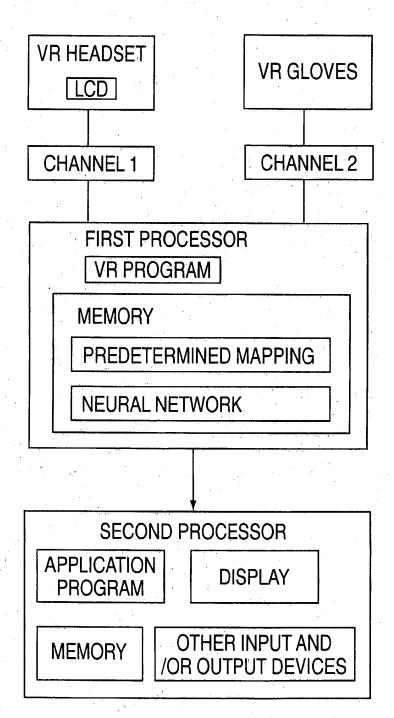


FIG. 20

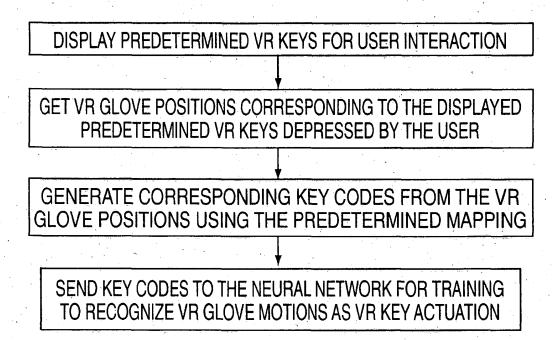


FIG. 21

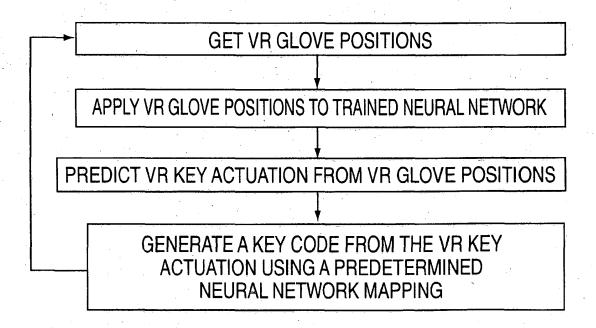


FIG. 22

DISPLAY A PREDETERMINED VR KEYBOARD LAYOUT FOR INTERACTION WITH A SPECIFIED USER

PROMPT USER TO POSITION VR GLOVE REPRESENTATION SUBSTANTIALLY ADJACENT TO THE VR KEYBOARD AND TO INTERACT IN VR USING THE VR GLOVE REPRESENTATION

GET VR GLOVE POSITIONS CORRESPONDING TO THE VR INTERACTIONS OF THE VR GLOVE WITH THE VR KEYBOARD

SEND VR GLOVE POSITIONS TO THE NEURAL NETWORK FOR TRAINING TO RECOGNIZE THE SPECIFIC USER BY THE POSITIONING OF THE VR GLOVES

FIG. 23

GET VR GLOVE POSITIONS

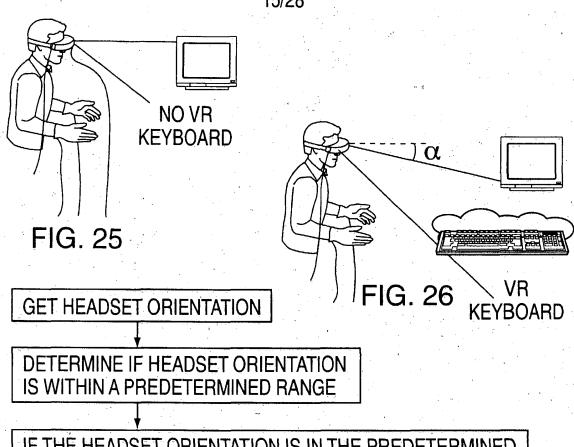
APPLY VR GLOVE POSITIONS TO TRAINED NEURAL NETWORK

CLASSIFY THE VR GLOVE POSITIONS AS CORRESPONDING TO OR NOT CORRESPONDING TO THE SPECIFIC USER WITHIN A PREDETERMINED ERROR TOLERANCE

GENERATE A CONTROL SIGNAL IN RESPONSE TO THE CLASSIFICATION

PROVIDE ACCESS OR DENIAL OF ACCESS TO AN APPLICATION PROGRAM THROUGH THE VR KEYBOARD IN RESPONSE TO THE CONTROL SIGNAL

FIG. 24



IF THE HEADSET ORIENTATION IS IN THE PREDETERMINED RANGE, GENERATE A VR KEYBOARD DISPLAY SIGNAL

CONCURRENT WITH GETTING VR GLOVE POSITIONS FOR VR
KEYBOARD PROCESSING, RESPOND TO THE VR KEYBOARD DISPLAY SIGNAL
TO DISPLAY OR TO NOT DISPLAY THE VR KEYBOARD IN THE VR HEADSET

IF THE VR KEYBOARD DISPLAY SIGNAL INDICATES DISPLAYING THE VR KEYBOARD, GENERATE THE VR KEYBOARD REPRESENTATION CONCURRENT WITH THE PROCESSING OF THE VR GLOVE POSITIONS FOR VR KEYBOARD INPUT

IF THE VR KEYBOARD DISPLAY SIGNAL INDICATES TO NOT DISPLAY THE VR KEYBOARD, DO NOT GENERATE THE VR KEYBOARD REPRESENTATION BUT PROCESS THE VR GLOVE POSITIONS FOR THE VR KEYBOARD INPUT

GET HEADSET ORIENTATIONS DURING USE OF THE VR KEYBOARD BY A SPECIFIC USER

LEARN A RANGE OF HEADSET ORIENTATIONS CORRESPONDING TO THE SPECIFIC USER LOOKING AT THE VR KEYBOARD

DETECT FOR THE VR KEYBOARD BEING DISPLAYED IN A PREDETERMINED PERCENTAGE OF THE OVERALL VR DISPLAY

STORE THE LEARNED RANGE AS A PREDETERMINED RANGE

FIG. 28

DETECT FOR A VR AUTOHIDE TOGGLE COMMAND

IF THE VR AUTOHIDE TOGGLE IS SET TO NOT AUTOHIDE, THEN DISABLE AUTOHIDE AND ALWAYS DISPLAY THE VR KEYBOARD

IF THE VR AUTOHIDE TOGGLE IS SET TO AUTOHIDE, THEN PERFORM VR AUTOHIDE

FIG. 29

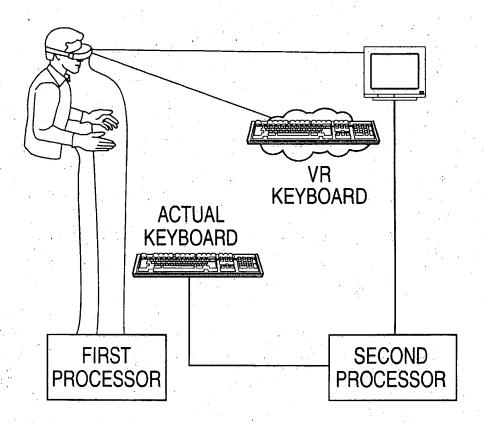


FIG. 30

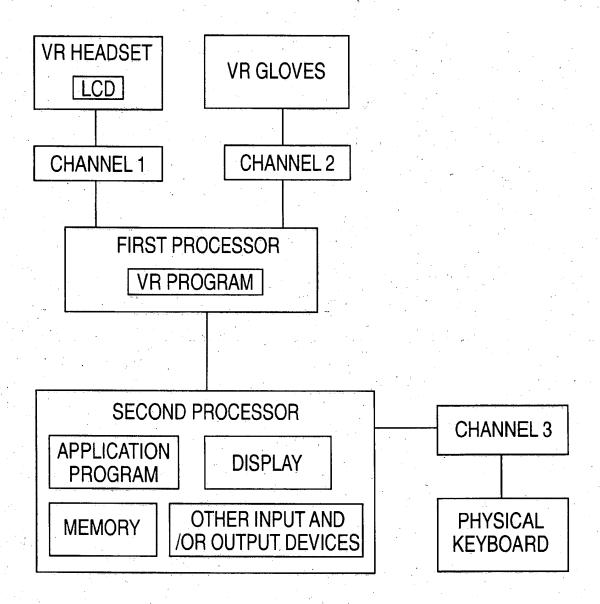


FIG. 31

DISPLAY PREDETERMINED VR KEYS FOR USER INTERACTION GET VR GLOVE POSITIONS CORRESPONDING TO PHYSICAL KEYS DEPRESSED BY THE USER ON THE PHYSICAL KEYBOARD SAMPLE CONTROL SIGNALS GENERATED BY THE PHYSICAL KEYBOARD IN RESPONSE TO THE DEPRESSION OF THE PHYSICAL KEYS STORE THE CONTROL SIGNALS IN A MEMORY GENERATE A MAPPING OF THE VR GLOVE POSITIONS WITH THE VR KEYS, KEY CODES, AND THE CONTROL SIGNALS FIG. 32 **GET A VR GLOVE POSITION** DETERMINE THE KEY CODE CORRESPONDING TO THE VR GLOVE POSITION USING THE MAPPING RETRIEVE A CONTROL SIGNAL FROM MEMORY CORRESPONDING TO THE KEY CODE

FIG. 33

VR KEY CORRESPONDING TO THE KEY CODE

APPLY THE CONTROL SIGNAL TO AN APPLICATION PROGRAM

GENERATE A VR DISPLAY INDICATING ACTUATION OF A

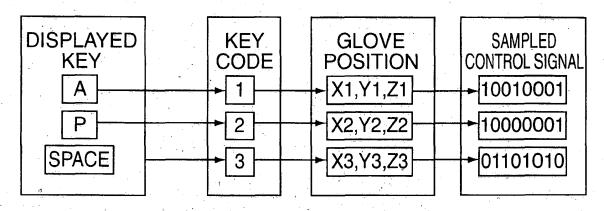
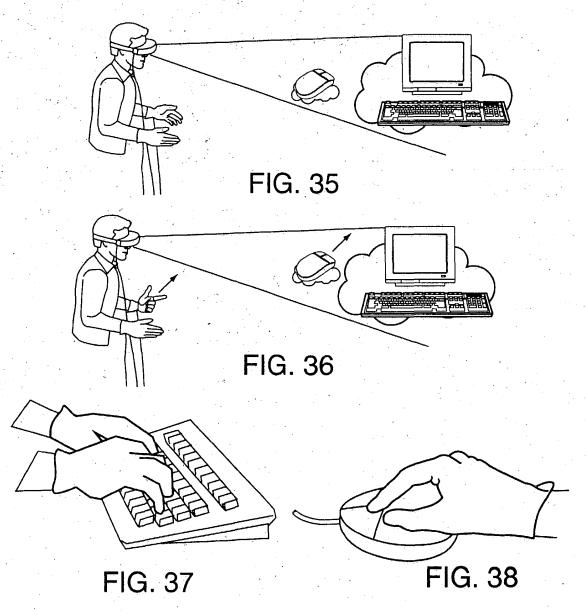


FIG. 34



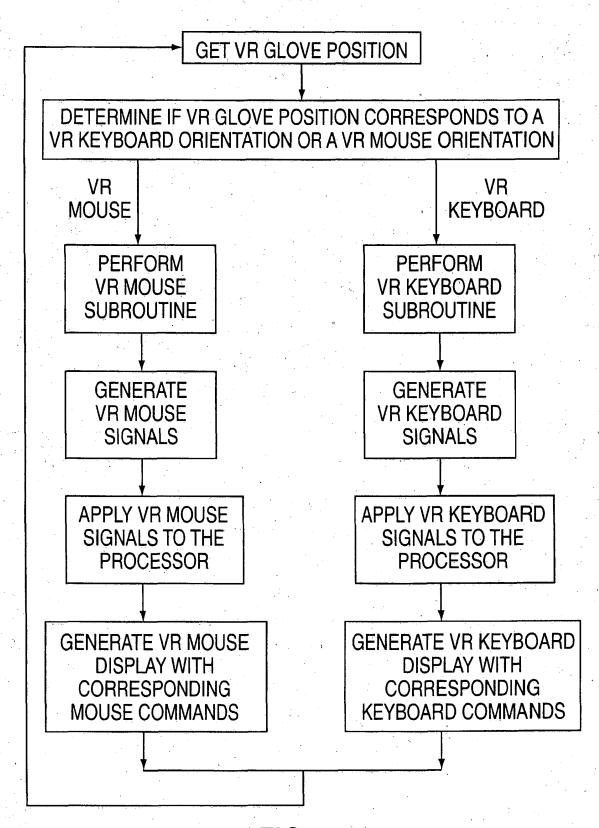


FIG. 39

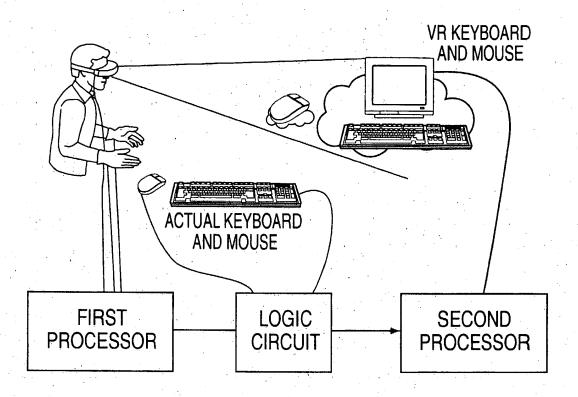


FIG. 40

RECEIVE FIRST KEYBOARD SIGNALS FROM VR PROCESSOR GENERATED IN RESPONSE TO VR ACTUATION OF A VR KEYBOARD BY A USER

RECEIVE SECOND KEYBOARD SIGNALS FROM A PHYSICAL KEYBOARD
GENERATED IN RESPONSE TO PHYSICAL ACTUATION OF A PHYSICAL KEYBOARD BY A USER

APPLY KEYBOARD SIGNALS TO LOGIC GATE TO GENERATE A KEY INPUT SIGNAL FOR USE BY THE PROCESSOR

APPLY KEYBOARD SIGNALS TO AN XOR GATE TO GENERATE INPUT SIGNALS FROM EITHER THE VR KEYBOARD OR THE PHYSICAL KEYBOARD BUT NOT BOTH

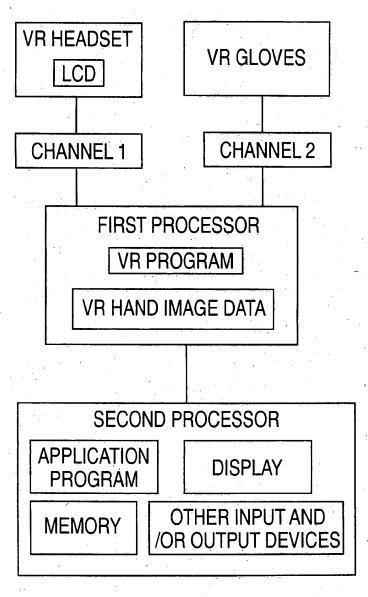
FIG. 41

RECEIVE FIRST MOUSE SIGNALS FROM VR PROCESSOR GENERATED IN RESPONSE TO VR ACTUATION OF A VR MOUSE BY A USER

RECEIVE SECOND MOUSE SIGNALS FROM A PHYSICAL MOUSE GENERATED IN RESPONSE TO PHYSICAL ACTUATION OF A PHYSICAL MOUSE BY A USER

APPLY MOUSE SIGNALS TO LOGIC GATE TO GENERATE MOUSE INPUT SIGNALS FOR USE BY THE PROCESSOR

APPLY MOUSE SIGNALS TO AN XOR GATE TO GENERATE INPUT SIGNALS FROM EITHER THE VR MOUSE OR THE PHYSICAL MOUSE BUT NOT BOTH



 $\zeta_{i,j}^{*}$

FIG. 43

GET VR GLOVE POSITION

GENERATE CORRESPONDING KEY CODE FROM THE VR GLOVE POSITION USING A PREDETERMINED MAPPING

SEND KEY CODE TO APPLICATION PROGRAM

GENERATE A CORRESPONDING VR HAND IMAGE FROM THE VR GLOVE POSITION

GENERATE A DISPLAY REPRESENTING THE KEY INPUT IN VR

GENERATE THE KEY INPUT DISPLAY ON A VR
REPRESENTATION OF A KEYBOARD IN A VR HEADSET WITH
THE VR HAND IMAGE REPRESENTING THE VR ACTUATION
OF THE CORRESPONDING VR KEY

FIG. 44

GENERATE A CORRESPONDING VR HAND IMAGE FROM THE VR GLOVE POSITION

RETRIEVE A CORRESPONDING PRE-SCANNED HAND IMAGE OF THE ACTUAL HANDS OF THE USER FROM MEMORY

MORPH THE PRE-SCANNED HAND IMAGE TO CORRESPOND TO THE VR GLOVE POSITION WITH CORRESPONDING VR FINGERS EXTENDED TO ACTUATE A VR KEY ON THE VR KEYBOARD

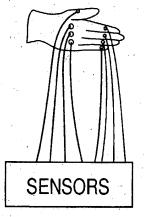
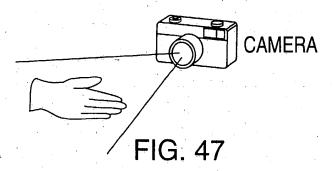
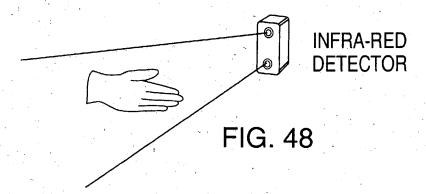


FIG. 46





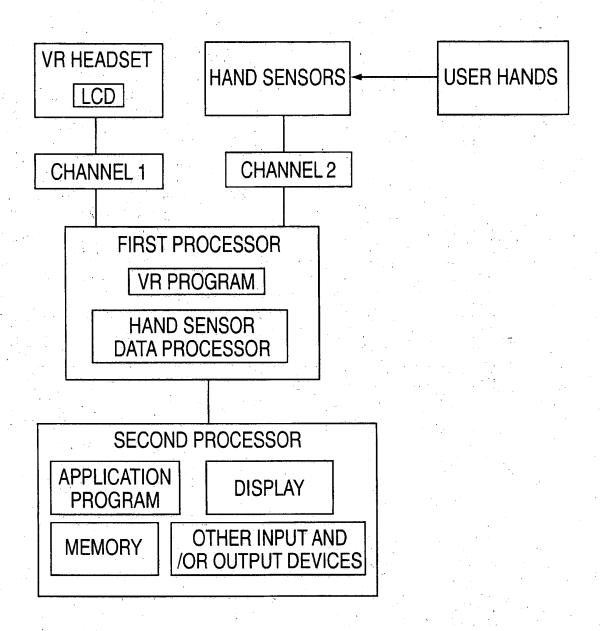


FIG. 49

SCAN HAND POSITIONS OF A USER

APPLY SENSORS TO HANDS OF USER TO DETERMINE HAND POSITIONS

GENERATE HAND POSITION DATA FROM THE HAND POSITIONS

GENERATE A CORRESPONDING KEY CODE FROM THE HAND POSITION DATA USING A PREDETERMINED MAPPING

SEND KEY CODE TO APPLICATION PROGRAM

GENERATE A DISPLAY REPRESENTING THE KEY INPUT

GENERATE THE KEY INPUT DISPLAY ON A VR REPRESENTATION OF A KEYBOARD IN A VR HEADSET

FIG. 50